

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 166, 168, 170 and 177 are pending in the application, with claim 166 being the independent claim. Claims 77-97, 122-141, 167, 169, 171-176, 179, 181-186 and 205-246 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. Claims 166 and 170 have been amended in order to clarify the claimed invention. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Provisional Double Patenting Rejection

The Examiner has provisionally rejected claims 166, 168, 170 and 177 under the judicially created doctrine of obviousness-type double patenting over claims 1-29 of copending Appl. No. 10/031,345. Paper No. 200405, page 3.

According to § 804(I)(B) of the Manual of Patent Examining Procedure (M.P.E.P.), when provisional double patenting issues are raised in copending applications, "[i]f the 'provisional' double patenting rejections in both applications are the only rejections remaining in those applications, the examiner should then withdraw that rejection in one of the applications (e.g., the application with the earlier filing date) and permit the application to issue as a patent. The examiner should maintain the double patenting rejection in the other application as a 'provisional' double patenting rejection

which will be converted into a double patenting rejection when the one application issues as a patent."

Applicants will appropriately address the double patenting rejection in the event it is converted to an actual double patenting rejection pursuant to MPEP § 804(I)(B).

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 166, 170 and 177 under 35 U.S.C. § 102(e) as allegedly being anticipated by Chien, *et al.* (U.S. Patent No. 6,150,087) ("Chien"). Paper No. 200405, page 3.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). MPEP § 2131. Chien fails to teach every aspect of the claimed invention.

Applicants assert that the currently pending claims are not anticipated by Chien. Claims 166, 170 and 177, as amended, are directed to an isolated peptide selected from a group which includes Applicants' elected peptide GVAGALVAFK. Chien does not disclose the exact peptide sequence GVAGALVAFK. In general, Chien is merely an attempt to cover the HCV genome in 50 amino acid blocks. As the Examiner has pointed out, Chien only discloses a peptide sequence 50 amino acids in length (AA1850-AA1900) which *comprises* the sequence GVAGALVAFK. (*See* Chien, col. 27, second paragraph; Paper No. 200405, page 3.) Although Chien discloses HCV peptide sequences, none of the peptides disclosed in Chien corresponds to Applicants' claimed peptide. Because Chien does not disclose every element of claims 166, 170 and 177,

these claims are not anticipated by Chien. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 166, 168, 170 and 177 under 35 U.S.C. § 103(a) as allegedly being obvious over Chien in view of Berzofsky *et al.*, U.S. Patent No. 5,980,899 (Berzofsky), and in view of Guo *et al.*, *Nature* 360: 364-366 (1992) (Guo). Paper No. 200405, page 4. Applicants respectfully disagree.

Applicants note that claims 166, 168, 170 and 177, as amended, are directed to an isolated peptide selected from a group which includes Applicants' elected peptide GVAGALVAFK. Chien, as discussed above, does not teach or suggest every element of Applicants' claimed invention.

The Examiner has stated that Berzofsky allegedly teaches that it is desirable to identify CTL epitopes found in HCV. Paper No. 200405, page 4. However, Berzofsky does not teach or suggest Applicants' claimed peptide GVAGALVAFK.

The Examiner has also stated that Guo allegedly teaches that CTL recognize viral peptides complexed with MHC and that these peptides generally are 9 to 11 amino acids in length. Paper No. 200405, pages 4-5. However, Guo does not teach or suggest Applicants' claimed peptide. Thus, neither Berzofsky nor Guo rescue the deficiencies of Chien. At best, Berzofsky and/or Guo provide an invitation to experiment.

Furthermore, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the

desirability of the combination." *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Applicants point out that in Table XXIII ("Immunogenicity of identified supermotif-bearing peptides"), Applicants' elected peptide GVAGALVAFK exhibits the strongest CTL-inducing response in transgenic mice as compared to any of the other peptides listed in Table XXIII and compared to any of the other peptides which share the same A3 motif. Furthermore, this response is significantly greater than the nonamer peptide VAGALVAFK (56.5 as compared to 7.1) which shares the identical sequence with the exception of a glycine amino acid at the N-terminus of the sequence.

Applicants also point out that in Table XVI, Applicants elected peptide GVAGALVAFK exhibits one of the strongest binding affinities as compared to over 400 other peptides which share the same A3 motif. Applicants note while Guo discloses that different length peptides bind to HLA-Aw68, Guo does not teach or suggest which peptides are actually competent to *induce a CTL response*. Applicants assert that the evidence in Applicants' specification shows that the elected peptide GVAGALVAFK not only exhibits improved binding properties as compared to over 400 other peptides sharing the same motif, but in addition, also exhibits a significantly greater CTL induction as compared to other peptides sharing the same motif. Chien, Berzofsky, or Guo do not teach or suggest the desirability of Applicants' claimed invention as described above.

Thus, Applicants assert that Chien in view of Berzofsky and Guo do not render claims 166, 168, 170 and 177 obvious as they do not teach or suggest all of the

limitations of the claims. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103 be reconsidered and withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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